

## **HEART RATE MAX CALCULATIONS AND GENERAL GUIDE**

### **Introduction**

In this era of cycling where many more middle aged people are beginning to ride and rightfully also for all the right reasons, it is important to also express caution and provide a generalised guide towards understanding Heart Rate Maximum calculations for the discerning cyclist.

This article needs to be read with the provided disclaimer below as it serves as intended as a guide for the discerning and training cyclist

### **Basic Formula**

Conventional way of calculating Heart Rate Maximum (HRM) is: 220 beats/ minute minus your Age.

Therefore if you are say 40 years of age, your HRM is  $220-40=180$  beats/ minute

### **Generalised Trends**

It is stated that we discourage cyclists from exceeding 90% of their Heart Rate Max at any time during their ride / training.

Some journals indicate that cyclists can potentially rev up to 92% of their HRM for a period of 3 minutes maximum but I personally discourage this as Maximum settings are provided for a basic reason – precaution and not over taxing the heart.

It is also known that the best effective training range for HRM for your cycling training, fitness and direct assistance of your metabolic rate is between 70-90% of your HRM.

This will explain perhaps why there may be so many over weight cyclists who cover the distance but perhaps not achieve at least 70% HRM for their bodies to burn fat. There are also many other reasons and a provoking article entitled 'Why are there so many fat cyclists?' was penned by this author. Copies of this article can be obtained by emailing: [ianwee@pihc.com.au](mailto:ianwee@pihc.com.au)

One should therefore train between 70-90% of their HRM for maximal benefits to their cardio vascular and respiratory systems as well as muscle and body conditioning.

The key word used in this article is 'Generalised Trends'. Any person with physiological training will know that the generally given formula can be wrought with inaccuracies which is why a more specialised test is always recommended.

### **Monitoring Trends**

One's Resting Heart Rate (RHR) should be calculated just after one wakes up in the morning.

Generally the lower your RHR the fitter you are as a cyclist.

Note however that there are times when a very low RHR which is abnormal from your average may indicate that there is something systemically wrong and this should be checked out immediately.

One should monitor RHR over a period of two weeks to determine what your average RHR is like.

After 3 or more months of consistent training on the bike, your RHR will drop as your fitness improves. It is not uncommon for those commencing cycling for the first time or have been deconditioned to have a higher than average RHR and if this seems abnormally high, then a medical check-up where physiological testing is available, is warranted.

### **Calculations for Training**

Once your RHR is known it is easier to monitor your fitness levels while at the same time monitoring your fitness of your cardio vascular system.

One should check your HRM mid way through the cycling training or ride to see what the trends are.

At the end of the ride or training one should check the results once again to see how your recovery is taking place and once again monitor your ability to recover 15 minutes after cessation of the activity.

In general the faster your body adapts from the recommended 70-90% HRM to the resting or working RHR is a better indication of your fitness and endurance on the bike.

### **Gadgets and Monitoring Equipment**

The latest and greatest of personal measurement devices such as Garmin and Polar to name a few better ones provide these together with a Heart Rate Monitor that you strap across your chest. There are even models now that you can purchase on-line with these monitors that are compatible with your Smartphone applications.

While we are not specifically endorsing one product to another, the discerning cyclist should explore and determine their specific training needs which is beyond the scope of this article.

## **When Things Are Amiss**

It is generally known that monitoring one's RHR can also assist in the earlier detection if you are unwell or becoming unwell.

If your RHR fluctuates plus / minus 10 beats per minute – one should partake of your regular fitness program and instead rest and recuperate.

If your RHR fluctuates plus / minus 5 beats per minute – it is time to give yourself a lesser variation in your normal fitness program as you may be fatigued / tired and in need of a rest.

If the RHR fluctuates away from this range, it is prudent to go and have yourself checked by a qualified tertiary trained health professional.

## **How To Determine Fitness**

Having a proper Physiological Fitness Testing is the way to go and one will be able to discern specifically what your needs are and the trained health professional can guide you exactly where your training zones and fitness capabilities are.

With the growing and worrying number of older male and female cyclists who have been riding for many years suffering heart attacks this form of fitness testing is really important as many of these seasoned and experienced riders never learnt about heart rate maximum and how to train within their acceptable zones of fitness.

Perth Integrated Health offers a very comprehensive fitness assessment conducted by our health professionals and to find out more please email Julian Mancini: [julian@pihc.com.au](mailto:julian@pihc.com.au) or Ian Wee at: [ianwee@pihc.com.au](mailto:ianwee@pihc.com.au)

We conduct Heart Rate Thresholds using our Medical Ergometer and the results created can be used as part of the creation of an Individualised Training Program – called our Mesocycle Training Program. These individualised programs are written specifically by PIHCG Level 1 Road and Track Cycling Coaches in consultation with Perth Integrated Health clinicians.

## **Disclaimer**

This article has been written to raise the awareness of cyclists to the general concepts of Heart Rate Max calculations and how to use it in a generalised sense for your fitness. It is not meant as a specific guide or measure of your fitness.

Cyclists or individuals reading this article and wishing to know more about their heart condition should make arrangements to consult a cardiac specialist and those wishing to learn more about training zones and their fitness levels to their tertiary trained health professional or either one of the Perth Integrated Health practitioners indicated above.

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*Ian Wee is a qualified health professional focusing on biomechanics, physiology and neuromuscular conditions of cyclists and triathletes. He is also a well known Bike Ergonomist, Aust Cycle Teacher, Cycling Coach and Medical Classifier for Cycling Australia. Ian is also team practitioner for the nationally acclaimed Huon Salmon Genesys Wealth Pro Cycling Team.*